UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DRAFT: these comments (or a revised version of them) will form a portion of the comments to result from the meeting/conference call on the ACS site Ecological Assessment scheduled for August 1.

DATE: August 1, 1991

SUBJECT: BTAG Minutes and Recommendations - Meeting August 1, 1991
Ecological Assessment - American Chemical Services, IN

FROM: Eileen Helmer, Ecologist
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TO: Robert Swale, RPM
IL/IN Section

The Biological Technical Assistance Group (BTAG) reviewed and discussed the above mentioned report during a meeting and conference call held August 1, 1991. Below are comments which resulted from the meeting along with comments previously developed With David Charters regarding Section 7.2.8 (Ecological Assessment Assumptions).

Section 7.2.8 - Ecological Assessment Assumptions

Pages 70-71, Media of potential concern - the chemical concentrations for media of concern must represent the worst case scenario. The highest concentrations, rather than the upper bound 95% confidence interval, must be used.

Selection of chemicals of potential concern - risk calculations must be performed for all chemicals which are present in media at levels elevated above background. Importance values for chemicals should not be used. Note that for polychlorinated biphenyls (PCBs), kinetics regulate organism uptake, and bioaccumulation potentials must be used to estimate organism bioaccumulation (the K_{oc} does not determine bioaccumulation, although for some contaminants bioconcentration factors are related to oc partition coefficients).

Multiplication of ground water contaminant concentrations by the inverse of the contaminant K_{oc} is not a good assumption. Contaminant concentrations measured in shallow ground water wells represent the levels expected in surface waters. Adsorption to the soil substrates will have already occurred. And again, as it turns out PCB adsorption is actually controlled by kinetics rather than equilibrium coefficients.

Finally, general soil-water partition coefficients for inorganic

contaminants do not exist (they could only exist on a substrate- and site-specific basis, and would not be oc partition coefficients).

Page 71, Chemicals of potential concern - toxicity - As discussed above, all contaminants must be carried through risk assessment calculations. That includes PCBs.

Page 71, Terrestrial Risk Estimates - No basis is provided for the assumption that exposure from food consumption is negligible. Estimates of contaminant exposure from food ingestion must be included in risk calculations.

Pages 71-72, Organic chemicals of potential concern - it is not clear why PCBs are listed separately from the other chemicals of concern previously presented.

5th bullet - mammal ingestion of site contaminants would tend to integrate contaminant distribution; therefore frequency of detection of PCBs in animal tissue would be less variable than that for soils on-site. For risk calculations, assume all game mammals or amphibians contain PCBs.

7th bullet - Again, the risk calculations must assume a worst case scenario: it should use maximum concentrations detected; and assume the contaminant levels in all food items are determined by that concentration and the bioaccumulation factor.

Page 73, Aquatic Toxicity Estimates - 2nd bullet - Ambient Water Quality Criteria should be used as the benchmark to determine whether risk to aquatic life is posed by contaminants. If no AWQC are available for a contaminant, a bioconcentration factor (BCF) may be used for organic contaminants.

4th bullet - Since the RI report said the only significant contributor to surface water was ground water in the area, ground water levels should not be divided by a dilution factor.

If you have any questions or need any additional information, please do not hesitate to contact me at 6-4828.

cc: BTAG members